

LISTING OF CLAIMS

Claims 1-38 (withdrawn)

Claim 39 (currently amended): A process for preparing a coated substrate comprising:

- (a) obtaining a substrate with a clean surface,
- (b) applying a coating to the substrate wherein the coating comprises a homogeneous blend comprising:
 - (x) a 1,2-polybutadiene oligomer having a number average molecular weight (Mn) of about 500 Daltons to about 50,000 Daltons,
 - (y) ~~more than 25 percent based on weight of~~ a bis-phenol-A derivative that is end-capped with acrylate functionality, and
 - (z) a reactive component that has at least one terminal double bond and that enhances the compatibility between the 1,2-polybutadiene oligomer and the bis-phenol-A derivative, and
- (c) curing the homogeneous blend by exposing said blend to a sufficient level of a predetermined form of radiant energy.

Claim 40 (previously amended): A process for preparing a coated substrate according to Claim 39 wherein the radiant energy is derived from a source which is a member selected from the group consisting of electron beam, ultraviolet, radiofrequency, infrared, and combinations thereof.

Claim 41 (previously amended): A process for preparing a coated substrate according to Claim 40, wherein the substrate is an electrically conductive material that is heated in a radiofrequency induction field to initiate catalyst activity.

Claim 42 (currently amended): A process for preparing a coated substrate comprising:

- (a) obtaining a substrate with a clean surface,
- (b) applying a coating to the substrate wherein the coating comprises a homogeneous blend comprising:
 - (w) a 1,2 - polybutadiene oligomer having a number average molecular weight (Mn) of about 500 Daltons to about 50,000 Daltons,
 - (x) ~~more than 25 percent based on weight~~ of a bis-phenol A derivative that is end-capped with acrylate functionality, and
 - (y) a reactive component that has at least one terminal double bond and that enhances the compatibility between the 1,2 - polybutadiene oligomer and the bis-phenol-A derivative, and
 - (z) a ground state catalyst that initiates free radical cross-linking upon exposure to heat, and
- (c) curing the homogeneous blend by exposing said blend to a sufficient level of a predetermined form of radiant energy.

Claim 43 (previously added): A process for preparing a coated substrate according to Claim 42 wherein the homogeneous blend is exposed to both thermal energy and radiant energy.

Claim 44 (previously added): A curable homogeneous blend comprising:

- (a) a 1,2-polybutadiene copolymer having a number average molecular weight (Mn) of about 500 Daltons to about 50,000 Daltons,
- (b) a bis-phenol-A derivative that is end-capped with acrylate functionality, and
- (c) a reactive component that has at least one terminal double bond and that enhances the compatibility between the 1,2-polybutadiene oligomer and the acrylated bis-phenol-A derivative.

Claim 45 (previously added): A curable blend according to Claim 44 wherein the 1,2-polybutadiene copolymer is prepared from butadiene and a vinyl monomer that is a member selected from the group consisting of: styrene, vinyl acetate, divinyl benzene, isoprene, chloroprene, alkyl acrylates, alkyl methacrylates, ethylene, propylene, butylene and mixtures thereof.

Claim 46 (previously added): A curable homogeneous blend comprising:

- (a) a 1,2-polybutadiene oligomer having a number average molecular weight (Mn) of about 500 Daltons to about 50,000 Daltons.
- (b) an epoxy prepared from epichlorohydrin and bis-phenol-A that is end-capped with acrylate functionality, and
- (c) a reactive component that has at least one terminal double bond and that enhances the compatibility between the 1,2-polybutadiene oligomer and the acrylated bis-phenol-A derivative.

Claim 47 (previously added): A curable homogeneous blend comprising:

- (a) a 1,2-polybutadiene oligomer having a number average molecular weight (Mn) of about 500 Daltons to about 50,000 Daltons,
- (b) a bis-phenol-A derivative that is end-capped with acrylate functionality, and
- (c) a reactive component substituted with long chain alkyl or alkoxy segments that has at least one terminal double bond and that enhances the compatibility between the 1,2-polybutadiene oligomer and the acrylated his-phenol-A derivative.

Claim 48 (previously added): A curable blend according to Claim 47 wherein the substituted reactive component is a member selected from the group consisting of: alkoxylated nonyl phenol acrylate and alkoxylated nonyl phenol methacrylate.

Claim 49 (previously added): A curable homogeneous blend comprising:

- (a) a 1,2-polybutadiene oligomer having a number average molecular weight (Mn) of about 500 Daltons to about 50,000 Daltons.
- (b) a bis-phenol-A derivative that is end-capped with acrylate functionality, and
- (c) a heterocyclic reactive organic compound that has at least one terminal double bond and that enhances the compatibility between the 1,2-polybutadiene oligomer and the acrylated bis-phenol-A derivative.

Claim 50 (previously added): A curable blend according to Claim 49 wherein the heterocyclic compound is a member selected from the group consisting of: n-vinyl pyrrolidone and methyl-n-vinyl pyrrolidone.

Claim 51 (previously added): A curable homogeneous blend comprising:

- (a) a 1,2-polybutadiene oligomer having a number average molecular weight (Mn) of about 500 Daltons to about 50,000 Daltons,
- (b) a bis-phenol-A derivative that is end-capped with acrylate functionality,
- (c) a reactive component that has at least one terminal double bond and that enhances the compatibility between the 1,2-polybutadiene oligomer and the acrylated bis-phenol-A derivative, and
- (d) a hydroxy functional adhesion promoter.

Claim 52 (currently amended): A curable blend according to Claim 50 51 wherein the hydroxy functional compound is a member selected from the group consisting of hydroxyethyl methacrylate and ethoxylated hydroxyethyl methacrylate.

Claim 53 (previously added): A coated substrate wherein the coating comprises a crosslinked composition prepared from a homogeneous blend comprising:

- (a) a 1,2-polybutadiene copolymer having a number average molecular weight (Mn) of about 500 Daltons to about 50,000 Daltons.
- (b) a bis-phenol-A derivative that is end-capped with acrylate functionality, and
- (c) a reactive component that has at least one terminal double bond and that enhances the compatibility between the 1,2-polybutadiene oligomer and the bis-phenol-A derivative.

Claim 54 (currently amended): A coated substrate according to Claim 52 53 wherein the 1,2-polybutadiene copolymer is prepared from butadiene and a vinyl monomer that is a member selected from the group consisting of: styrene, vinyl acetate, divinyl benzene, isoprene, chioroprene, alkyl acrylates, alkyl methacrylates, ethylene, propylene, butylene and mixtures thereof.

Claim 55 (currently amended): A coated substrate ~~according to Claim 52 wherein the bis-phenol-A derivative is prepared from epichlorohydrin and bis-phenol-A, wherein the coating comprises a crosslinked composition prepared from a homogeneous blend comprising:~~

- (a) a 1,2-polybutadiene oligomer having a number average molecular weight (Mn) of about 500 Daltons to about 50,000 Daltons,
- (b) a bis-phenol-A derivative prepared from epichlorohydrin and bis-phenol-A that is end-capped with acrylate functionality, and
- (c) a reactive component that has at least one terminal double bond and that enhances the compatibility between the 1,2-polybutadiene oligomer and the bis-phenol-A derivative.